

We claim:

1. A method for scheduling events occurring at non-integral times in a simulation model for modeling analog and mixed signal digital-analog physical circuits and systems in a digital computer, the method comprising:

assigning scheduled times to the events;

using a hash function based on the scheduled times of the events, storing the events in buckets, each bucket containing at least one event;

associating the scheduled times assigned to the events in the buckets with the buckets;

organizing the scheduled times into a heap;

removing an earliest scheduled time from the heap;

simulating the events in the bucket associated with the earliest scheduled time;

re-organizing the remaining scheduled times into a new heap; and

repeating the steps of removing a scheduled time, simulating the events, and reorganizing the remaining scheduled times until the heap is empty.

2. A method according to claim 1, the method further comprising:

beginning the mixed-signal simulation;

determining the events from the mixed-signal simulation; and

determining the scheduled times for when the events are to occur.

3. A method according to claim 1, wherein simulating the events includes:

determining new events of the mixed-signal simulation;

determining the scheduled times for when the events are to occur; and

placing the new determined events into buckets using the hash function based on the scheduled times of the events.

4. A method according to claim 3, wherein placing the new determined events includes:

placing a first new determined event into a new bucket;

associating the scheduled time assigned to the first new determined event with the new bucket;

adding the new scheduled time associated with the new bucket to the heap; and

re-organizing the scheduled times into a new heap.



